Know the Earth…Show the Way

Status of NSG Airborne Architecture

NGA Airborne Integration Office

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21 April 2004
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Purpose of Brief

- To provide the CITC with a perspective of NGA/A airborne system requirements and field questions related to:
  - Systems requirements
  - Schedule
  - Development
  - Transition

Discussion Focus

- AIN 2.0: Community Airborne Library Architecture (CALA)
- AIN 3.0: Airborne Integration Into NIES and WALA

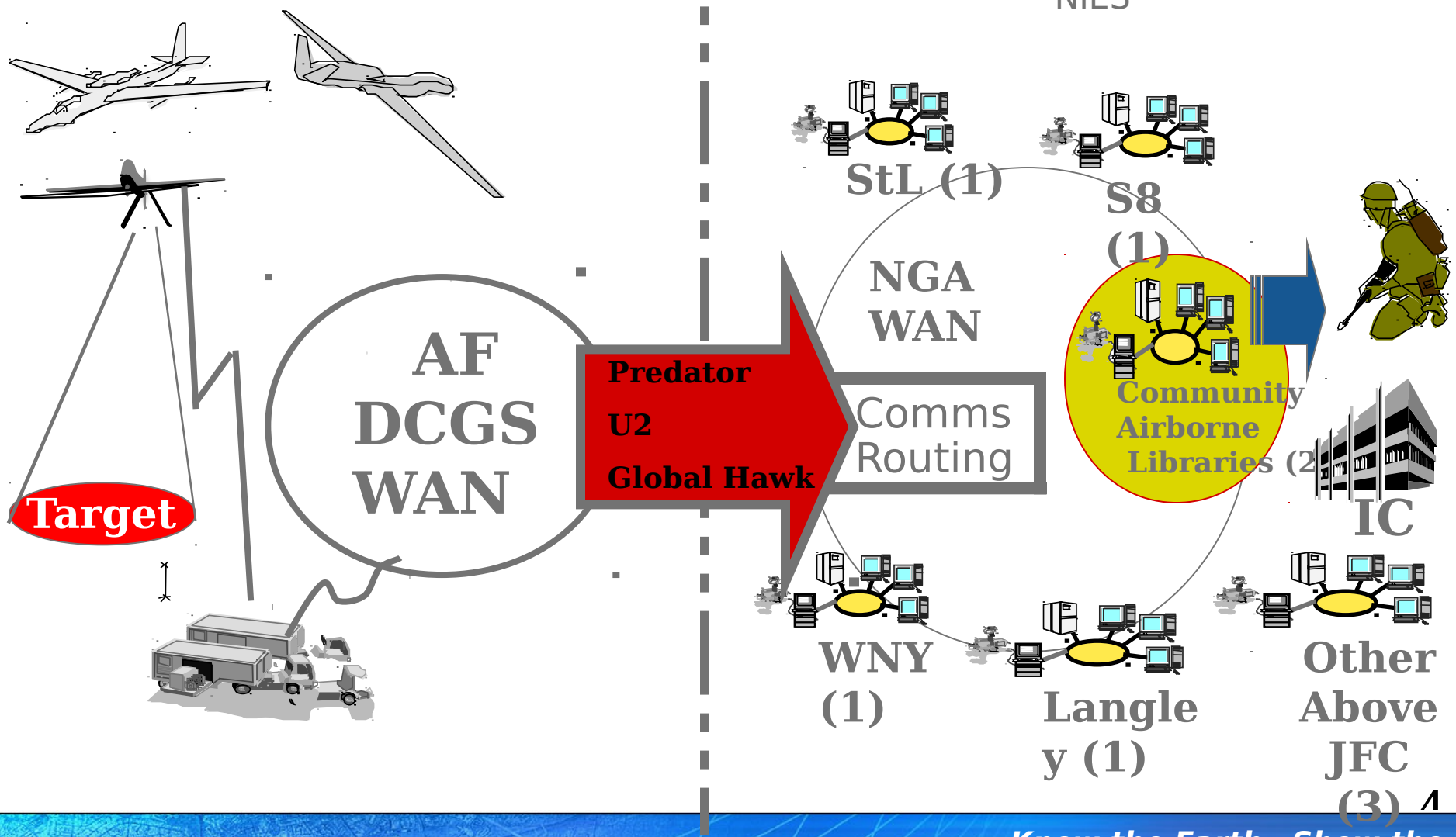
AIN = Airborne Integration into the NSG

Basic Architecture

(1) AIN 1.0 Abn Cells

(2) AIN 2.0 CALA

(3) AIN 3.0 WALA & NIES



CALA Background

- Jun 02: CMS question to NGA: “What can be done to accelerate access to airborne information?”
- Jan 03: NGA gains access to AF ISR collection
  - NGA now working with other Services to gain access to different sensor data for CALA
- May 03: NGA presents CJCSI Abn Data release policy proposal to JCS J2
- Apr 04 - Present: NGA executing CALA plans

CALA Requirements

- Primary imagery data, posted on CALA, will allow providers and consumers ***access to geo-spatial intelligence data never before available*** to them.
- Before CALA, airborne imagery collection data was analyzed for the satisfaction of pre-defined intelligence requirements and due to the lack of an accessible repository to hold the data, the remaining ***imagery collection data was routinely discarded.***
- With CALA all airborne imagery collection data will be not only stored for future use, the data will also be quickly ***available to anyone with a need and access to a JWICS or SIPRNET terminal.***

CALA Issues

- Access to data through Services and Commands - requires a policy
  - USD (I) policy now in place, CJCSI in Staffing
- Formats of still and motion imagery produced by Service ISR platforms
  - NGA does not control changes to sensors and ISR ground architectures
- GIG BE Implementation worldwide

CALA Overview

- NGA Library that provides community access to unexploited still and motion imagery
  - U2, GH, and Predator at IOC
- Leverage existing system capabilities
  - Start with Airborne data on the AF DCGS WAN
  - Bonus from DOD's GIG-BE IOC sites
  - Bonus from existing/planned JWAC capabilities
- Provide phased architectural approach
  - Provides opportunity to address unknowns (storage needs from user standpoint, policy issues, etc)
- Access controlled initially to scope user burden.
  - Access will ramp up over time.

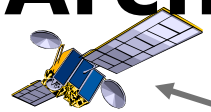
CALA Overview (*Continued*)

- Central repository for airborne imagery - primary imagery - not products
  - Reduce community burden for storage
  - Support diverse DoD and IC intelligence reqt's
  - Pull, not push system
    - Pull chips; not full frames
- Web-enabled access to digital imagery using common tools
  - Still Imagery: Client 2001, Quick Query (Q2); Motion Imagery: Internet Explorer, Netscape, GCCS I3 client
  - Provides query, browse & retrieval of cataloged airborne imagery

CALA Overview (*Continued*)

- Community-wide access by Commands, Services, and Agencies
- Access via existing communications such as:
  - SIPRNET & JWICS
  - WARP
  - NGANET
- Serve customers in multiple security domains
  - Supports SCI and Collateral Secret users
- Architecture supports 2d/3d Phase exploitation
- One year storage for still and motion imagery

CALA Architecture



DCGS WAN

ONI Sharp & GH

Predator Now GH & U2 Jan 04 y

NGA ABN Cells

WARP

Mo str

ETP

NGA POP

Oct 03

Primary Imagery

Shared OC-12

Apr 04

S8

NGA Net

Still IPL Hi

JWICS

IPL Deliver Jan 04

NGA Users - Hi

Query via WARP, C2K1, Q2

IC Users - Hi

Query via WARP, C2K1, Q2

JWAC

CMIL Install Nov 03 y

Lo SW

Motion Lib Lo

Still IPL Lo

SIPR SW

IPL Install Oct 03

May 04

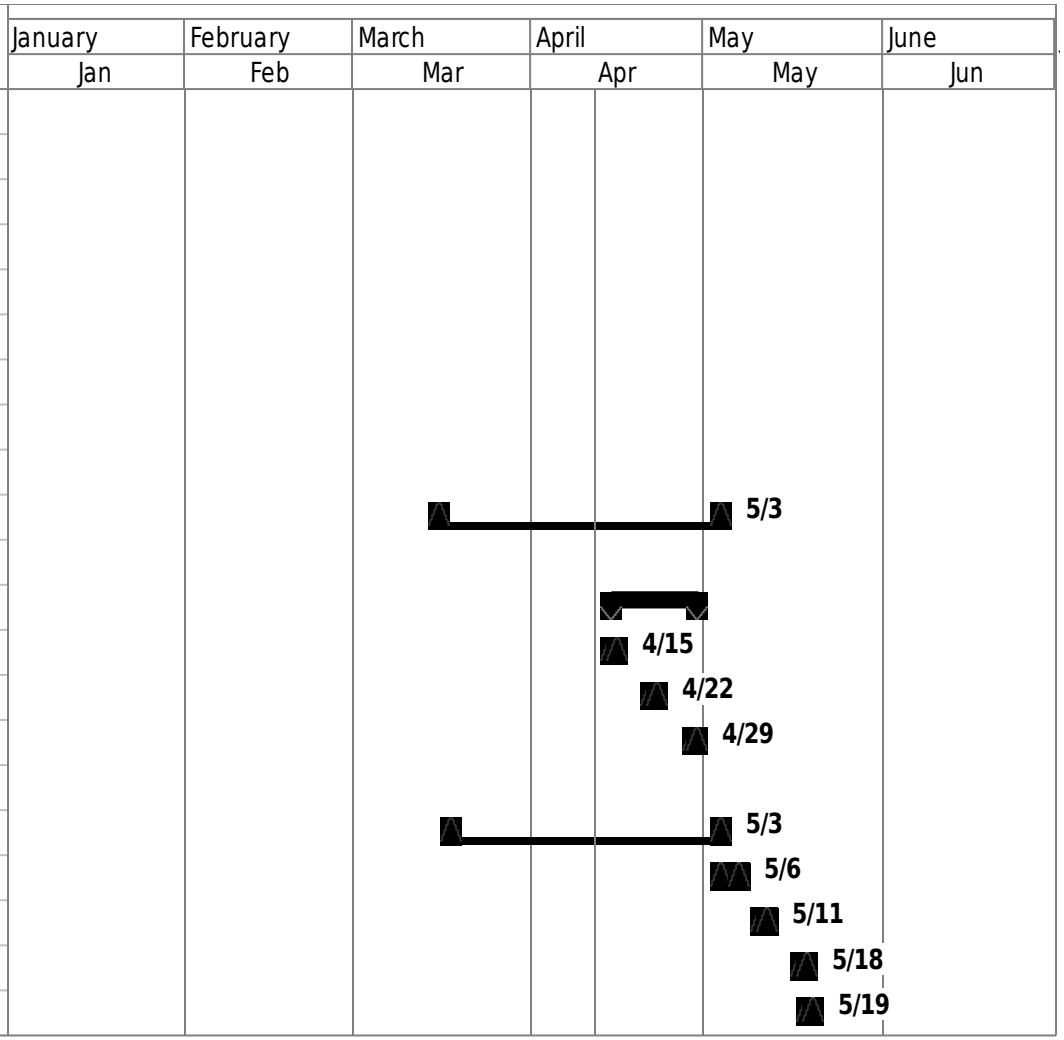
SIPRNET Node Dec 03 y

Lo Users

Query via WARP, C2K1, Q2

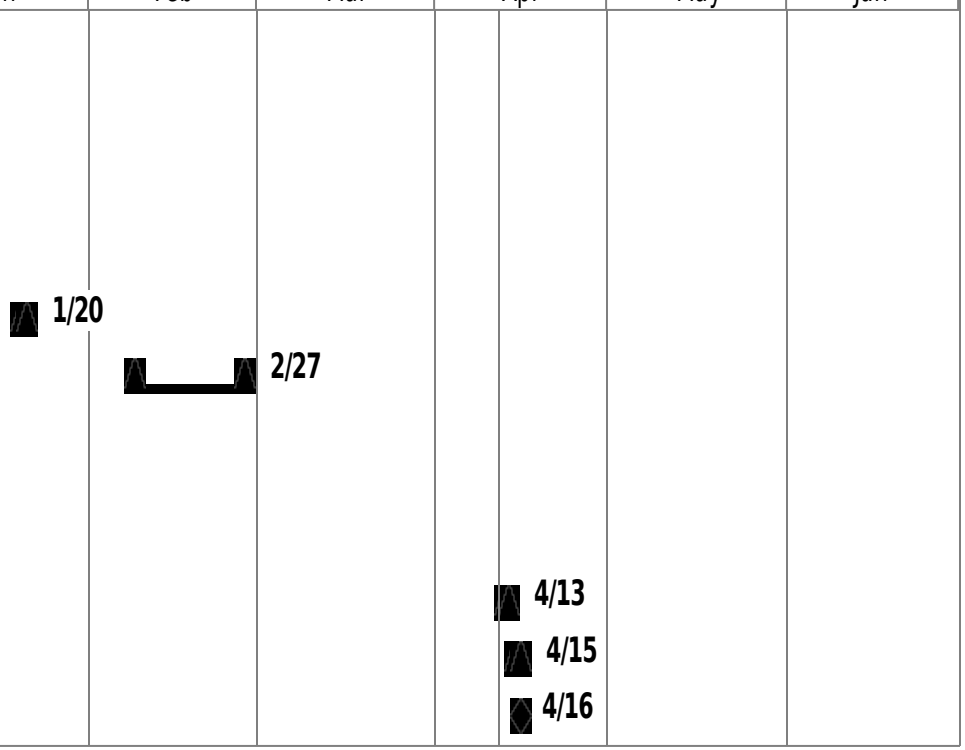
CALA CMIL Schedule

ID	Task Name
1	**Community Airborne Library Architecture (CALA) CMIL**
2	**Engineering**
3	**Library Design & Equip.**
17	**Testing and Certification**
18	**Test Planning**
21	**IPL**
23	**CMIL**
24	CMIL FAT Dry Run Dayton **11/11**
25	CMIL FAT Dayton **11/14**
26	CMIL Install, Check & Test
27	**NIMA Readiness Procedure Complete**
32	**NIMA Readiness Procedure Remaining**
33	CMIL TRR Go Decision
34	CMIL TRR Dry Run
35	CMIL TRR
36	**Beta Test**
37	CMIL Beta Test Dry Runs and Fixes
38	CMIL Beta Test
39	CMIL ORR Dry Run
40	**CMIL ORR**
41	**CMIL IOC**



IPL HI Schedule

ID	Task Name
1	**Community Airborne Library Architecture (CALA) IPL HI**
2	**Engineering**
3	**Library Design & Equip.**
4	**PICTE**
6	**IPL Hi**
7	Equip Delivery to Site
8	Equip Install, Test, Train
9	**CMIL**
14	**IAS - C2K1 JWAC**
18	**Testing and Certification**
39	CALA IPL HI ORR Dry Run
40	**CALA IPL Hi ORR**
41	**CALA IPL Hi IOC**



Account Requests as of 10 Nov 03

- Services:
  - USA:
    - SIPRNET: INSCOM/66th MI GP, 513 MI BDE
    - JWICS: INSCOM/513 MI BDE
  - USN:
    - SIPRNET: Office Naval Intel/NMIC
    - JWICS: Office Naval Intel/NMIC
  - USAF: JWICS: ACC/AFDCGS (L3 GSI)
  - USMC

Status: Account Requests as of 10 Nov 03

- Commands:
  - EUCOM: JWICS - JAC/DOIZ
  - SOCOM:
    - SIPRNET: USSOCOM
    - JWICS: USSOCOM, JSOC
  - PACOM: JWICS - PACAF AIS/INE

Status: Last Week

- Collateral Status
  - IPL operational and ingesting all ETP and MOBSTR SYERS
  - MOBSTR ASARS ingest to IPL unsat due to field value non-compliance.
  - CMIL operating and re-ingesting taped data to replace damaged files
  - CMIL Beta test dry runs in progress

Status: Last Week

- SCI Status
  - IPL operational and ingesting all ETP and MOBSTR SYERS
  - Hi IPL Beta test completed successfully
  - IAS server configured and points to Hi IPL
  - Hi IPL accessible via JWICS and NGAnet
  - PICTEs configured to send dual feeds to JWAC to mitigate risk of intermittent PICTE shut-down and loss of data.

CALA POCs

- NGA - Paul Baker 703-755-5404
- JWAC
  - Debbie King 540-653-3851
  - Dennis O’Connor 540-653-5061
- CALA Help Desk 540-653-3981

AIN 3.0 Airborne Integration into NIES and WALA

- Provide architecture improvements to NIES & WALA for airborne imagery
- Provide architecture solutions for:
  - Receipt of airborne imagery to support non-NRT NGA or NIES production
  - Automated exploitation management
  - Automated data flows for NRT exploitation support
  - Motion imagery on libraries
- Implement standards for airborne still and motion imagery and support data.

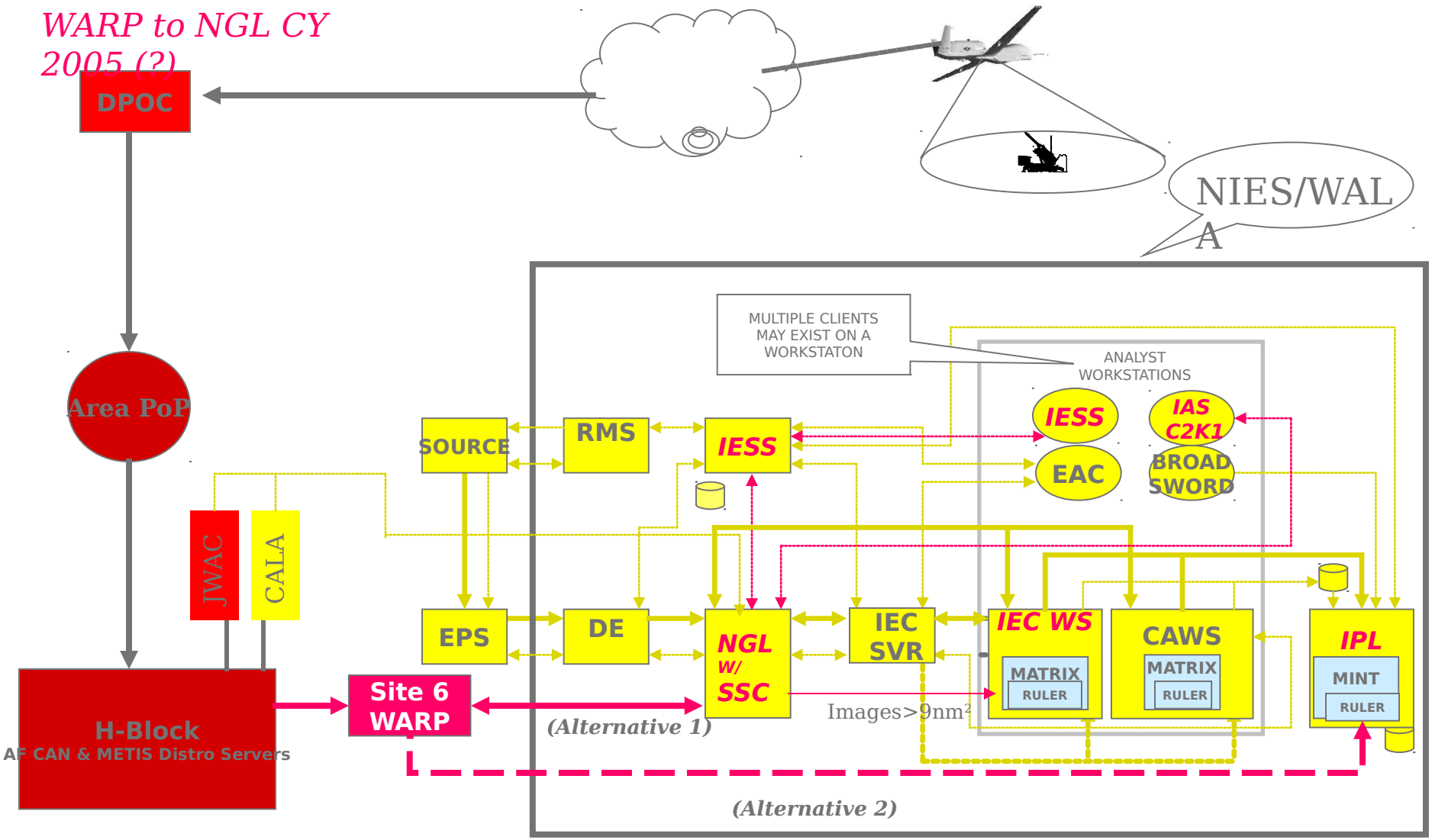
AIN 3.0 Requirements

- Provide airborne capabilities for NSG segments
  - NGL, IPL: Processing and archive
  - IESS, NES: Data management
  - IAS/C2K1, WARP: Data query
  - IEC: Data exploitation
- Provide exploiter ability to view, manipulate, exploit, edit, annotate, create secondary exploited products, extract chips and geo-register airborne still imagery on UNIX and PC workstations.
- IOC – May 05

AIN-NSG Architecture Proposed Phased-Approach Overview

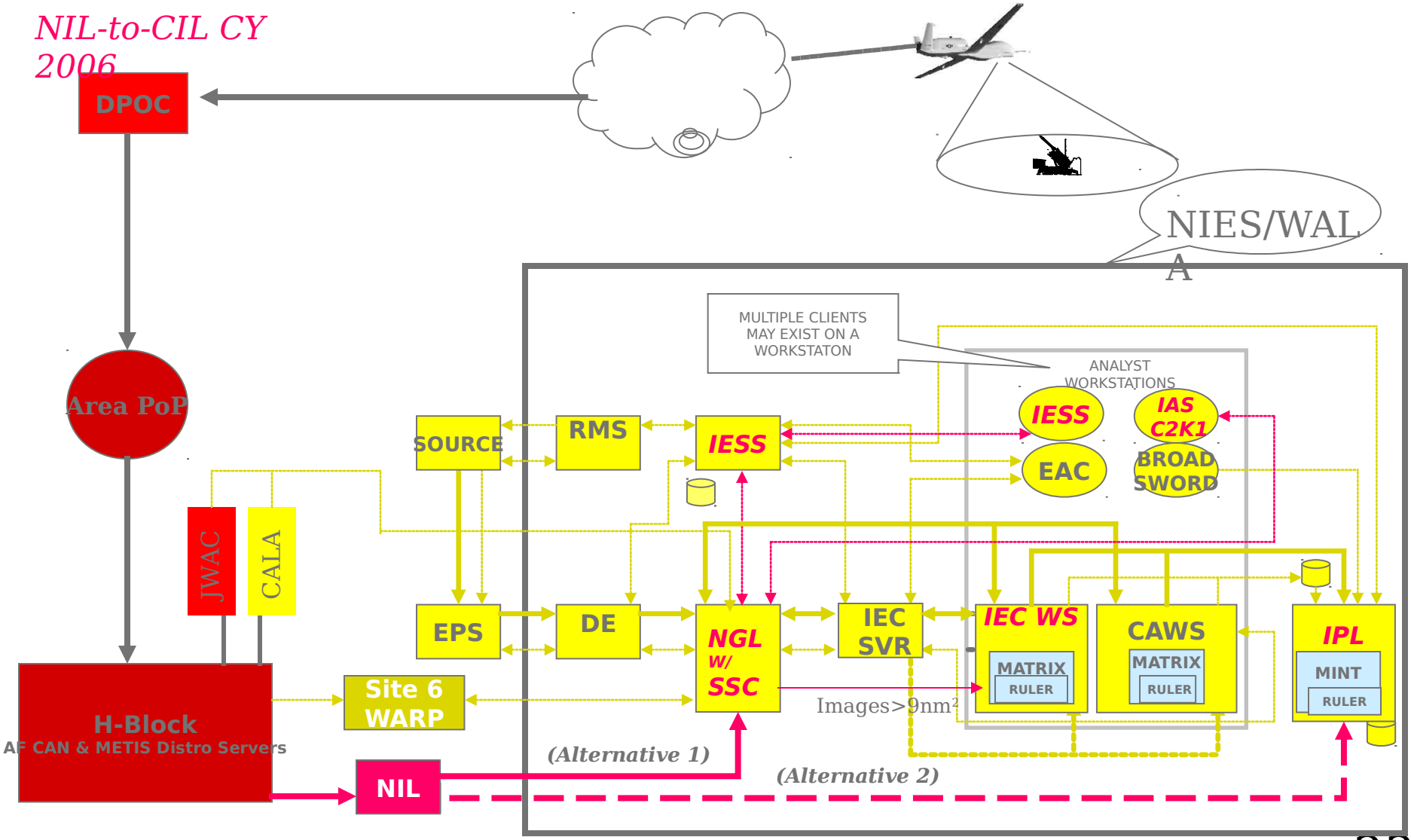
AIN 3.0 CY 2005	AIN 3.1 CY 200x TBD	AIN 3.2 CY 200x TBD
Tactical Still Imagery • SCI • WARP Push to CILs • WARP Pull • CALA Pull	Tactical Still Imagery • SCI • WARP Push to CIL • WARP Pull • CALA Pull • NIL to CIL	Tactical Still Imagery • SCI • WARP Push to CIL • WARP Pull • CALA Pull • NIL to CIL • IDS-D to CIL
Tactical Motion Imagery • Site 8 to CMIL • Site 8 to ABN Cells	Tactical Motion Imagery • Site 8 to CMIL • Site 8 to ABN Cells • Site 8 to CILs	Tactical Motion Imagery • Site 8 to CMIL • Site 8 to ABN Cells • Site 8 to CILs • IDS-D to CILs (?)

NSG w/ AIN 3.0 Architecture



NOTE: Architecture Assumes Site Pri
Throughput via the CIL (Alternative 1

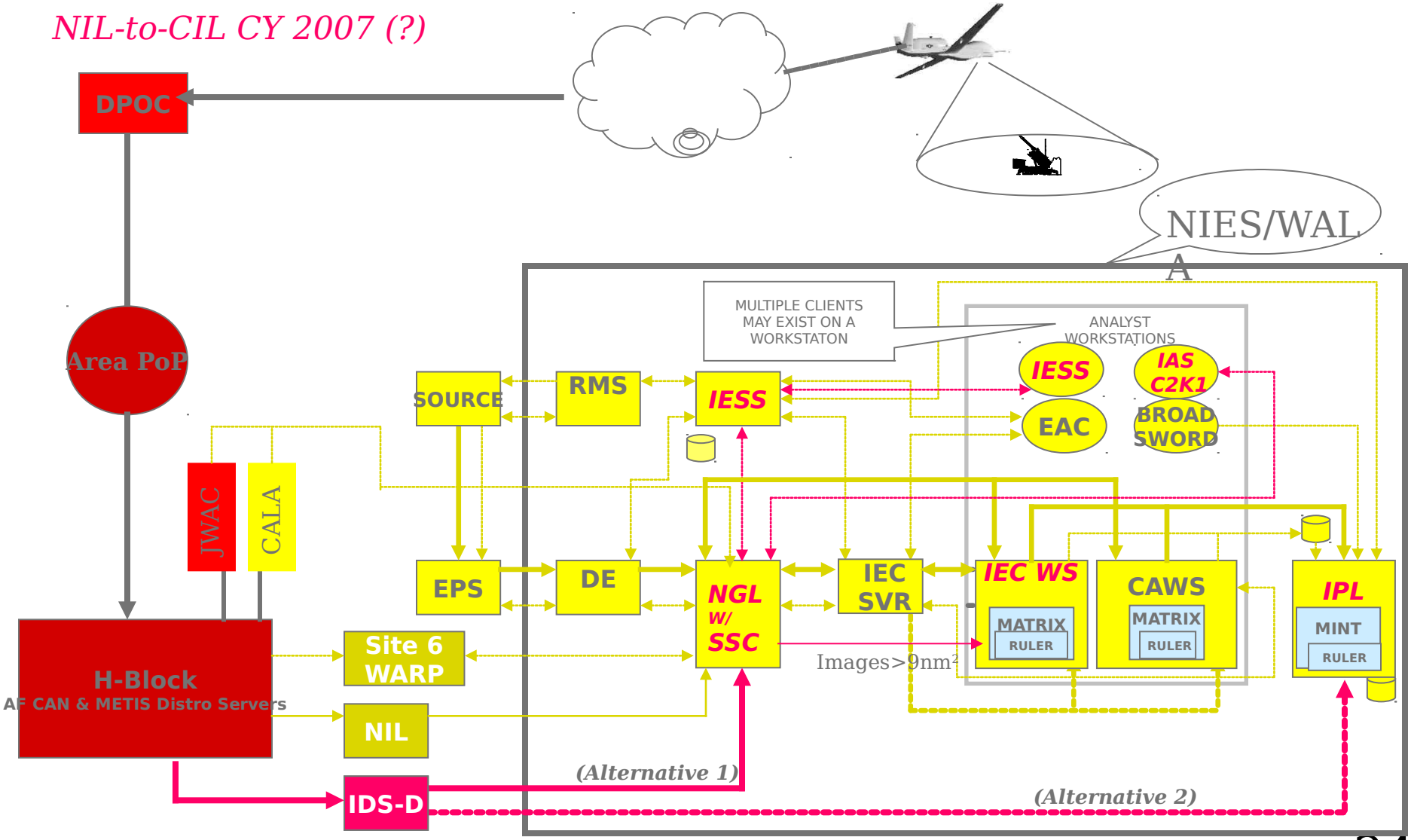
NSG w/ AIN 3.1 Architecture



NOTE: Architecture Assumes Site Pri
Throughput via the CIL (Alternative 1

NSG w/ AIN 3.2 Architecture

NIL-to-CIL CY 2007 (?)



NOTE: Architecture Assumes Site Pri
Throughput via the CIL (Alternative 1

AIN 3.0 POCs

- NGA - Scott D'Agostin 703-264-3461
- SI – Bob Whiteman 703-359-8551
- SI - Eric Hoffman 703-359-8549
- SI - Todd Gerecke 360-354-0359

Hi Level Issues

- CM with Services, Coalition, National Agencies to control interfaces and implementation of standards.
  - Requires costly consideration of each abn collector during NSG system (IESS, IPL, NES, etc) implementation
- Lack of cross agency program to assure image quality, geo-positioning quality, and standards implementation during airborne collector development
- Comms from airborne platform to NSG community is lacking.
  - AF has only architecture today that supports moving abn data from platform to NSGI community.
- Need to work on Collaborative TPED/TPPU operations to support tasking, collection and exploitation.